

From: [BAYUK Dana](#)
To: [Madi Novak](#)
Cc: [Ben Hung](#); [HAFLEY Dan](#); [Review, Data](#); [LACEY David](#); [LARSEN Henning](#); [Ilene Gaekwad \(imunk@foleymansfield.com\)](#); [Joe Burke](#); [John Edwards](#); [Jen Mott](#); [James Peale](#); ["Mike Murray"](#); [JOHNSON Keith](#); [Kelly Titkemeier](#); [Mary Benzinger](#); [Crystal, Mike](#); [John Renda](#); [Myron Burr \(myron.burr@siltronic.com\)](#); [Patty Dost](#); [Lance Peterson \(PetersonLE@cdmsmith.com\)](#); [Bob Wyatt](#); [Rachel Melissa \(RMelissa@pearllegalgroup.com\)](#); [Rob Ede](#); [BURKHART Robert](#); [Sheldrake, Sean](#); [Sarah Riddle](#); (b) (6)
Subject: RE: NW Natural, Detections of 1,2-Dichlorobenzene in the HC&C System
Date: Monday, October 03, 2016 3:10:42 PM

Good afternoon Madi.

DEQ received Siltronic's June 23, 2016 letter commenting on the sampling and analytical approach that was implemented by NW Natural to further evaluate detections of 1,2-dichlorobenzene at extraction well PW-1L and in the influent to the Siltronic pre-treatment facility. Maul Foster and Alongi (MFA) prepared the letter on behalf of Siltronic.

Siltronic's submitted the comments subsequent to DEQ's June 17th e-mail approving NW Natural's approach.

DEQ noted the comments when received. DEQ provides clarifying comments below and for Siltronic's information going forward.

- For reasons cited in the June 23rd letter, Siltronic recommends that all extraction wells in the HC&C system include chlorinated benzenes in the analyte list. Chlorinated benzenes are routinely analyzed for in monitoring wells and extraction wells on both the Gasco and Siltronic sites.
- Siltronic recommends that the sampling and analytical data collected from extraction well PW-1L and the influent to the Siltronic pre-treatment facility be compared to risk-based and source control screening criteria. Given the samples are being collected within the HC&C system and treatment system, DEQ is not requesting the results be evaluated in terms of the these screening criteria.
- The letter indicates that MFA and Groundwater Solutions, Inc. "...have both documented the presence of chlorinated benzenes and similar compounds across all water-bearing zones." DEQ notes that MFA's and GSI's hydrostratigraphic nomenclature are not consistent with the framework currently in use at the Gasco Site and the northern portion Siltronic Site. Based on the framework developed during the planning, design, and construction of the HC&C system, detections of chlorinated benzenes occur in the deeper portions of the Lower Alluvium WBZ.
- Siltronic indicates that NW Natural did not provide the details and/or justification for collecting and analyzing 24-hour composite samples of influent to the Siltronic pre-treatment system. As indicated in Anchor's (John Renda) June 17th e-mail, the 24-hour composite sample is using the same methodology required for collecting effluent samples from the Main Treatment Building. During a phone call on July 19th, Anchor (Ben Hung) confirmed to MFA (James Peale) that the composite sampling methodology includes the collection of discrete samples for analysis of VOCs. Based on the call, DEQ understands Siltronic's questions on this topic have been resolved.

Madi, DEQ believes that most of Siltronic's June 23rd comments could have been resolved with a telephone call, or using information Siltronic has been provided. In the future, DEQ requests that Siltronic discuss questions and/or comments by phone before preparing a comments letter. DEQ believes this is a more efficient and effective approach to project communications.

Please feel free to contact me with questions regarding this e-mail.

Dana

Mr. Dana Bayuk
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From: Mike Murray [mailto:mmurray@maulfoster.com]
Sent: Thursday, June 23, 2016 9:10 AM
To: John Renda; BAYUK Dana
Cc: Ben Hung; HAFLEY Dan; Review, Data; LACEY David; LARSEN Henning; Ilene Gaekwad (imunk@foleymansfield.com); Joe Burke; John Edwards; Jen Mott; James Peale; JOHNSON Keith; Kelly Titkemeier; Mary Benzinger; Crystal, Mike; Madi Novak; Myron Burr (myron.burr@siltronic.com); Patty Dost; Lance Peterson (PetersonLE@cdmsmith.com); Bob Wyatt; Rachel Melissa (RMelissa@pearllegalgroup.com); Rob Ede; BURKHART Robert; Sean Sheldrake; Sarah Riddle; (b) (6) (b) (6) Chip Byrd (WByrd@sevenson.com); 'Chris.Reive@jordanramis.com'
Subject: RE: NW Natural, Detections of 1,2-Dichlorobenzene in the HC&C System

On behalf of Siltronic, MFA has prepared the attached letter providing comments on the proposed groundwater and HC&C Siltronic pre-treatment plant influent sampling.

Thank you,
Mike

MICHAEL R. MURRAY RG, LHG, EIT | MAUL FOSTER & ALONGI, INC.

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From: John Renda [<mailto:jrenda@anchorqea.com>]

Sent: Friday, June 17, 2016 7:46 AM

To: BAYUK Dana

Cc: Ben Hung; HAFLEY Dan; Review, Data; LACEY David; LARSEN Henning; Ilene Gaekwad (imunk@foylemansfield.com); Joe Burke; John Edwards; Jen Mott; James Peale; JOHNSON Keith; Kelly Titkemeier; Mary Benzinger; Crystal, Mike; Mike Murray; Madi Novak; Myron Burr (myron.burr@siltronic.com); Patty Dost; Lance Peterson (PetersonLE@cdmsmith.com); Bob Wyatt; Rachel Melissa (RMelissa@pearllegalgroup.com); Rob Ede; BURKHART Robert; Sean Sheldrake; Sarah Riddle; (b) (6); Chip Byrd (WByrd@sevenson.com)

Subject: RE: NW Natural, Detections of 1,2-Dichlorobenzene in the HC&C System

Thanks Dana!

In response to the two points of clarification:

- Dioxins and Furans will be analyzed by EPA method 8290.
- The 24-hour composite sample collection methodology will be consistent with those currently used for collecting samples of the Main Treatment Plan effluent.

Please let me know if you have any further questions.

John J. Renda, RG

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-----Original Message-----

From: BAYUK Dana [<mailto:dana.bayuk@state.or.us>]

Sent: Friday, June 17, 2016 7:17 AM

To: John Renda <jrenda@anchorqea.com>

Cc: Ben Hung <bhung@anchorqea.com>; HAFLEY Dan <dan.hafley@state.or.us>; Review, Data <datareview@sevenson.com>; LACEY David <david.j.lacey@state.or.us>; LARSEN Henning <henning.larsen@state.or.us>; Ilene Gaekwad (imunk@foylemansfield.com) <imunk@foylemansfield.com>; Joe Burke <jburke@sevenson.com>; John Edwards <jedwards@anchorqea.com>; Jen Mott <jmott@anchorqea.com>; James Peale

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(b) (6) Chip Byrd (WByrd@sevenson.com) <wbyrd@sevenson.com>

Subject: RE: NW Natural, Detections of 1,2-Dichlorobenzene in the HC&C System

Hello John.

DEQ reviewed NW Natural's June 10, 2016 e-mail responding to our May 26th request for further evaluation of 1,2-dichlorobenzene detections in samples collected from extraction well PW-1L and the influent to the Siltronic Pre-treatment Facility. DEQ understands from the June 10th e-mail that NW Natural will conduct the evaluation as requested. In addition, DEQ acknowledges that NW Natural expanded the scope of the sampling and analytical work to include dioxins and furans.

DEQ approves the June 10th e-mail subject to our comment regarding analysis of dioxins and furans and NW Natural providing additional information about collecting the Siltronic Pre-treatment Facility influent sample, as follows:

- * The text of the e-mail indicates that EPA method 8280A will be used to analyze samples for dioxins and furans. The Table 1 attachment shows that EPA Method 8290 will be used. DEQ requests that NW Natural use EPA Method 8290A for these analyses (i.e., high-resolution gas chromatography/high-resolution mass spectrometry [EPA Method 1613B equivalent]).

- * The e-mail indicates that the Siltronic Pre-treatment Facility influent sample will be collected as a 24-hour composite. Please confirm DEQ's understanding that the sample collection methodology will be consistent with those currently used for collecting samples of the Main Treatment Plan effluent.

As indicated in DEQ's May 26th e-mail, the results of the work that NW Natural is going to complete will be used to determine whether the HC&C system monitoring program and/or waste-stream determinations should be expanded to include constituents associated with the Rhone Poulenc groundwater plume; and whether operational adjustments to the HC&C system should be considered.

DEQ acknowledges and appreciates the work NW Natural will be conducting to further evaluate groundwater entering the HC&C system.

Please feel free to contact me with questions regarding this e-mail and hope your day goes well.

Dana

Mr. Dana Bayuk

Cleanup Program Project Manager/Hydrogeologist Oregon Department of Environmental Quality
Northwest Region

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From: Jen Mott [jmott@anchorqea.com]

Sent: Friday, June 10, 2016 1:10 PM

To: BAYUK Dana

Cc: Patty Dost; Rachel Melissa (RMelissa@pearllegalgroup.com); Sarah Riddle; Ben Hung; John Edwards; Rob Ede; (b) (6); Chip Byrd (WByrd@sevenson.com);

Crystal, Mike; Joe Burke; Review, Data; Ilene Gaekwad (imunk@foleymansfield.com); Sean Sheldrake; Lance Peterson (PetersonLE@cdmsmith.com); JOHNSON Keith; Bob Wyatt; HAFLEY Dan; LARSEN Henning; LACEY David; BURKHART Robert; John Renda; Jen Mott; James Peale; Kelly Titkemeier (ktitkemeier@maulfoster.com); Madi Novak; Mary Benzinger

(mbenzinger@maulfoster.com); 'Mike Murray'; Myron Burr (myron.burr@siltronic.com)

Subject: RE: NW Natural, Detections of 1,2-Dichlorobenzene in the HC&C System

Dana –

In your May 26, 2016 email you requested that NW Natural perform the following tasks:

1. Compile information for Rhone Poulenc constituents available from sampling the HC&C system, and lower Alluvium WBZ and deep lower Alluvium WBZ in the northern portion of the Siltronic Site and southern Gasco Site
2. Collect and analyze samples from PW-1L and the influent to the Siltronic pre-treatment facility for Rhone Poulenc constituents, including volatile organic compounds, semi-volatile organic

compounds, organo-chlorine insecticides and chlorinated herbicides

3. Evaluate the detections of Rhone Poulenc constituents in the context of HC&C system operations, particularly at PW-1L.

NW Natural is not responsible for investigating or remediating contaminants in groundwater migrating from the Rhone-Poulenc facility or other off-site sources.

<http://www.deq.state.or.us/lq/pubs/docs/cu/OffSiteContaminantMigrationPolicy.pdf> Nonetheless, NW Natural is prepared to collect samples from PW-1L and the influent to the Siltronic pretreatment plant and to analyze those samples as requested as part of our routine groundwater monitoring program. The sample from the Siltronic pretreatment plant will be collected as a 24-hour composite sample. Samples from these two locations are already analyzed for VOCs and SVOCs. Table A-1 from the Sampling and Analysis Plan included in the Performance and Monitoring Plan (submitted to DEQ in May 2015; attached). Table A-1 shows the analyte list, analytical methods, and target reporting limits for VOCs and SVOCs that we currently follow. Organochlorine pesticides, chlorinated herbicides, and dioxins and furans will be added to the analytical list during the next scheduled monitoring event for extraction well PW-1L and the influent to the Siltronic pretreatment plant. Table 1 shows the analyte list, analytical methods, and target reporting limits for the organochlorine pesticides, chlorinated herbicides, and dioxins and furans. The analytical methods are summarized below.

- VOCs by EPA method 8260B
- SVOCs and PAHs by EPA method 8270C
- Organochlorine pesticides by EPA method 8081B
- Chlorinated herbicides by EPA method 8151A
- Dioxins and Furans by EPA method 8280A

Sampling of the extraction wells (including PW-1L) was planned for earlier this month, but is on hold in anticipation of including the additional analyses described above. Likewise, sampling of the influent to the Siltronic pretreatment plant is also on hold until we have DEQ concurrence on the analytical methods. Presuming DEQ approves the methods identified above by June 22, 2016, samples will be collected the week of June 27, 2016.

As requested, the results of this sample collection effort for these two samples will be reported to DEQ within 60 days of receiving laboratory analytical results.

NW Natural will also compile existing monitoring data for the Rhone Poulenc constituents available from sampling the HC&C System and lower Alluvium WBZ and deep lower Alluvium WBZ in the northern portion of the Siltronic Site and southern Gasco Site and evaluate the detection of the Rhone Poulenc constituents in the context of HC&C system operations.

Please contact John Renda with any questions.

Thank you,
Jen Mott :)
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From: BAYUK Dana [<mailto:BAYUK.Dana@deq.state.or.us>]
Sent: Thursday, May 26, 2016 1:11 PM
To: Bob Wyatt <rjw@nwnatural.com>
Cc: Patty Dost <pdost@pearllegalgroup.com>; Rachel Melissa (RMelissa@pearllegalgroup.com) <RMelissa@pearllegalgroup.com>; Sarah Riddle <sriddle@pearllegalgroup.com>; Ben Hung <bhung@anchorage.com>; John Edwards <jedwards@anchorage.com>; Jen Mott <jmott@anchorage.com>; Rob Ede <robe@hahnenv.com>; (b) (6)
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Subject: NW Natural, Detections of 1,2-Dichlorobenzene in the HC&C System

Good afternoon Bob.

DEQ reviewed the "1st Quarter Residual Package NW Natural Source Control Groundwater Treatment Facility" (1st Quarter Package) sent by e-mail on May 23, 2016. The 1st Quarter Package provides the results of collecting and analyzing samples of the following during January, February,

and March 2016:

- Treatment system residuals (i.e., filter press cake and bag filter solids);
- Influent to, and effluent from the Siltronic and NW Natural pre-treatment facilities; and
- Influent to the Main Treatment Building.

Based on our review of the 1st Quarter Package and the results of groundwater monitoring data available through December 2015, DEQ observes that 1,2-dichlorobenzene (1,2-DCB) has been detected:

- At PW-1L on three occasions (March, September, and December 2015) at concentrations ranging from less than 1 microgram/liter (ug/L) to just above 6 ug/L;
- In the samples of influent to the Siltronic pre-treatment facility at concentrations between approximately 5 ug/L and just over 6 ug/L; and
- In the Main Treatment Plant influent at concentrations less than 1 ug/L.

The chemical, 1,2-DCB, is a constituent associated with the plume of groundwater contamination originating from the Rhone Poulenc site. The Rhone Poulenc groundwater plume is documented to occur in the northern portion the Siltronic Site in the deep portions of the lower Alluvium water-bearing zone (WBZ).

Although the concentrations of 1,2-DCB are low, the detections indicate there is the potential for extraction well PW-1L to be withdrawing other constituents occurring within the Rhone Poulenc groundwater plume. Based on this information DEQ believes further evaluation of this potential scenario is warranted.

DEQ requests that NW Natural further evaluate groundwater entering the HC&C system by:

- Compiling information for Rhone Poulenc constituents available from sampling the HC&C system, and lower Alluvium WBZ and deep lower Alluvium WBZ in the northern portion of the Siltronic Site and southern Gasco Site;
- Collecting and analyzing samples from PW-1L and the influent to the Siltronic pre-treatment facility for Rhone Poulenc constituents, including volatile organic compounds, semi-volatile organic compounds, organo-chlorine insecticides and chlorinated herbicides; and
- Evaluating the detections of Rhone Poulenc constituents in the context of HC&C system operations, particularly at PW-1L.

Prior to collecting samples from PW-1L and the influent to the Siltronic pre-treatment facility, DEQ requests that NW Natural provide a list of the laboratory analytical methods to be used for sample

analysis on or before June 10th. DEQ further requests that sample collection and analysis occur as soon as practicable after DEQ approves the analytical methods, and that NW Natural provide the information indicated above in a single submittal within 60-days of receiving the laboratory analytical reports.

Constituents from the Rhone Poulenc plume are not currently included in the HC&C system monitoring program and/or the system waste-stream determinations completed to date. The data compilation and the results of analyzing groundwater at PW-1L and the influent to the Siltronic pre-treatment system will be used to determine whether the HC&C system monitoring program and/or waste-stream determinations should be expanded to include Rhone Poulenc constituents. In addition, adjustments to the HC&C system may be considered based on the results of the operations review and sampling data.

DEQ acknowledges and appreciates the substantial amount of work NW Natural has completed related to the HC&C system, and considers our requests for the information above to be necessary for planning long-term operations.

Please feel free to contact me if you have questions.

Dana

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